

# Eureka Math *A Story of Units*

## Fourth Grade – Module 6

### 2015-2016

#### Table of Contents

Module Assessment Overview	page 2
Grade 4 Standards Checklist	page 3
Module 6 Mid-Module Assessment Task...	
Score Sheet	pages 4-5
Rubric	page 6-7
Key	pages 8-12
Module 6 End-of-Module Assessment Task...	
Score Sheet	pages 13-14
Rubric	pages 15-16
Key	pages 17-21

Assessment based on Version 3.



## Module Assessment Overview

### Purpose of Assessments

**Mid-Module Assessment:** These tasks address approximately the **first half** of the module's learning objectives, and provide important information for instruction and for grading.

**End-of-Module Assessment:** These tasks are based on all standards addressed in order to gauge students' full range of understanding of the **module as a whole**. The End-of-Module assessment should carry more weight than the Mid-Module Assessment in terms of student grades in the appropriate domain.

### Administration of Assessments

- Mid- and End-of-Module Assessments are designed to be completed in approximately one class period. However, The tests can be given over multiple days as needed.
- Assessments are designed to be completed independently by students, without assistance.
- These tasks should not be preceded by review of similar problems.

### Grading Guidance

The grading scale on Elementary Report Cards has been changed for 2015-2016 and beyond. Please note that **4 now indicates advanced understanding of grade level standards expected at this time of year.**

- 4 – Advanced:** Student demonstrates advanced understanding of grade level standards expected at this time of year.
- 3 – Proficient:** Student demonstrates proficiency with grade level standards expected at this time of year.
- 2 – Basic:** Student demonstrates basic understanding of grade level standards expected at this time of year. Student needs additional support and practice.
- 1 – Below Basic:** Student demonstrates minimal understanding of grade level standards expected at this time of year. Student needs significant support and practice.

**Rubrics have been updated to reflect this change. Rubrics have been further modified from Eureka Math originals for clarity, accuracy, and alignment to Bethel's grade scale.**

#### General Grading Guidance:

- On the report card, student learning is reported by CCSS domain. The Fourth Grade CCSS domains are: Operations and Algebraic Thinking, Number and Operations in Base Ten, Number and Operations – Fractions, Measurement and Data, and Geometry.
- Grades in each domain should be based on multiple sources of evidence, including the Mid- and End-of-Module Assessments. The End-of-Module assessment should carry more weight than the Mid-Module Assessment in terms of student grades in the appropriate domain.

#### Module 6 Grading Guidance:

- Standards 4.NF.5, 4.NF.6, and 4.NF.7 are only assessed in Module 6. 4.MD.2 will be assessed again in Module 7. (See checklist on page 3.)

## Grade 4 Common Core State Standards Checklist by Module

This grade-level chart provides an at-a-glance view of when each standard is addressed. **Shaded boxes indicate standards assessed in Module 6.** Note that standards included in major clusters are followed by an asterisk (\*). Please refer to the Curriculum Overview of *A Story of Units* for a curriculum map and detailed grade-level descriptions including a summary of the year, a rationale of the module sequence, and a standards alignment chart.

CCSS		GRADE 4 MODULES						
		1	2	3	4	5	6	7
4.OA	1*			X				X
	2*			X				X
	3*	X		X				X
	4			X				
	5					X		
4.NBT	1*	X						
	2*	X						
	3*	X						
	4*	X						
	5*			X				X
	6*			X				
4.NF	1*					X		
	2*					X		
	3a*					X		
	3b*					X		
	3c*					X		
	3d*					X		
	4a*					X		
	4b*					X		
	4c*					X		
	5*						X	
	6*						X	
	7*						X	
4.MD	1		X					X
	2		X			X	X	X
	3			X				
	4					X		
	5a				X			
	5b				X			
	6				X			
	7				X			
4.G	1				X			
	2				X			
	3				X			

**Fourth Grade Module 6: Mid-Module Assessment Task Score Sheet****A Progression of Learning**

A Progression of Learning is provided to describe steps that illuminate the gradually increasing understandings that students develop *on their way to proficiency*. In this chart, this progress is presented from left to right. The learning goal for each student is to move to the last step, “Evidence of solid reasoning with a correct answer”. These steps are meant to help teachers and students identify and celebrate what the student CAN do now, and what they need to work on next.

**Score Key: A Progression of Learning**

Little or no evidence of reasoning with an incorrect answer.  (1 Point)	Evidence of some reasoning with an incorrect answer.  (2 Points)	Evidence of some reasoning with a correct answer or evidence of solid reasoning with an incorrect answer.  (3 Points)	Evidence of solid reasoning with a correct answer.  (4 Points)
---	--	---	--

Module 6: Mid-Module Assessment			
Question	Domain	Standards	
	Number and Operations – Fractions	4.NF.5	4.NF.6
1	1 2 3 4		X
2	1 2 3 4	X	X
3	1 2 3		X
4	1 2 3	X	
5	1 2 3 4	X	X
6	1 2 3 4	X	X

Domain Score	Number and Operations - Fractions	
Total Points		
Level	4	21-22 points
	3	15-20 points
	2	9-14 points
	1	6-8 points

Note: For more information about standards assessed in this module, see back of this score sheet.

Notes:

## Grade 4 Module 6 Mid-Module Assessment Task Score Sheet (continued)

### Mid-Module Assessment Task (Topics A–B) Standards Addressed

#### Understand decimal notation for fractions, and compare decimal fractions.

- 4.NF.5** Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100. *For example, express  $\frac{3}{10}$  as  $\frac{30}{100}$ , and add  $\frac{3}{10} + \frac{4}{100} = \frac{34}{100}$ . (Students who can generate equivalent fractions can develop strategies for adding fractions with unlike denominators in general. But addition and subtraction with unlike denominators in general is not a requirement at this grade.)*
- 4.NF.6** Use decimal notation for fractions with denominators 10 or 100. *For example, rewrite 0.62 as  $\frac{62}{100}$ ; describe a length as 0.62 meters; locate 0.62 on a number line diagram.*



## Grade 4 Module 6 Mid-Module Assessment Task Rubric

A Progression of Learning				
Assessment Task Item and Standards Assessed	<b>STEP 1</b> Little or no evidence of reasoning with an incorrect answer.  <b>(1 Point)</b>	<b>STEP 2</b> Evidence of some reasoning with an incorrect answer.  <b>(2 Points)</b>	<b>STEP 3</b> Evidence of some reasoning with a correct answer or evidence of solid reasoning with an incorrect answer.  <b>(3 Points)</b>	<b>STEP 4</b> Evidence of solid reasoning with a correct answer.  <b>(4 Points)</b>
<b>1</b>  <b>4.NF.6</b>	The student correctly answers <b>0-6</b> of the sixteen parts.	The student correctly answers <b>7-11</b> of the sixteen parts.	The student correctly answers <b>12-14</b> of the sixteen parts.	The student correctly answers <b>15-16</b> of the sixteen parts. (See below.)
	a. <b>(1)</b> 0.2 <b>(2)</b> model e. <b>(9)</b> 7.6 <b>(10)</b> model	b. <b>(3)</b> 0.03 <b>(4)</b> model f. <b>(11)</b> 3.64 <b>(12)</b> model	c. <b>(5)</b> 0.4 <b>(6)</b> model g. <b>(13)</b> 4.7 <b>(14)</b> model	d. <b>(7)</b> 0.46 <b>(8)</b> model h. <b>(15)</b> 5.72 <b>(16)</b> model
<b>2</b>  <b>4.NF.5</b> <b>4.NF.6</b>	The student correctly answers <b>0-1</b> of the six parts.	The student correctly answers <b>2-3</b> of the six parts.	The student correctly answers <b>4-5</b> of the six parts.	The student correctly answers <b>6</b> of the six parts. (See below.)
	a. <b>(1)</b> Decomposes and shades the model <b>(2)</b> shows equivalent fractions $\frac{3}{10} = \frac{30}{100}$ and <b>(3)</b> shows equivalent decimals $0.3 = 0.30$ . b. <b>(4)</b> Decomposes and shades the model, <b>(5)</b> shows equivalent fractions $1\frac{7}{10} = 1\frac{70}{100}$ and <b>(6)</b> shows equivalent decimals $1.7 = 1.70$ .			
<b>3</b>  <b>4.NF.6</b>	The student is unable to correctly compose or decompose.	The student answers one part correctly.	The student correctly: a. Decomposes 3.24 into number bonds: 3, 0.2, 0.04. b. Composes 2.53.	No level 4 for this item.
<b>4</b>  <b>4.NF.5</b>	The student shows little understanding of the number disks and equivalence.	The student models equivalence but does not use number disks.	The student correctly uses number disks to show the equivalence of 20 hundredths and 2 tenths in the place value chart.	No level 4 for this item.

## Grade 4 Module 6 Mid-Module Assessment Task Rubric (continued)

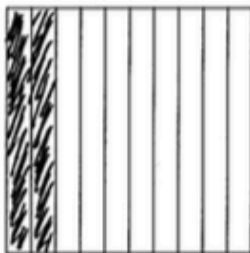
A Progression of Learning				
Assessment Task Item and Standards Assessed	STEP 1 Little or no evidence of reasoning with an incorrect answer.  (1 Point)	STEP 2 Evidence of some reasoning with an incorrect answer.  (2 Points)	STEP 3 Evidence of some reasoning with a correct answer or evidence of solid reasoning with an incorrect answer. (3 Points)	STEP 4 Evidence of solid reasoning with a correct answer.  (4 Points)
<b>5</b> <b>4.NF.5</b> <b>4.NF.6</b>	The student correctly answers <b>0-9</b> of the expressions.	The student correctly answers <b>10-15</b> of the expressions.	The student correctly answers <b>16-18</b> of the expressions.	The student correctly answers <b>19-20</b> of the 20 expressions. (See below.)
	<p>a. 1 tenth 6 hundredths; <b>(1)</b> <math>\frac{16}{100}</math>; <b>(2)</b> <math>(1 \times \frac{1}{10}) + (6 \times \frac{1}{100})</math>; <b>(3)</b> <math>(1 \times 0.1) + (6 \times 0.01)</math>; <b>(4)</b> 0.16.</p> <p>b. <b>(5)</b> 2 ones 7 tenths; <math>2\frac{7}{10}</math>; <b>(6)</b> <math>(2 \times 1) + (7 \times \frac{1}{10})</math>; <b>(7)</b> <math>(2 \times 1) + (7 \times 0.1)</math>; <b>(8)</b> 2.7.</p> <p>c. <b>(9)</b> 6 ones 3 tenths 4 hundredths; <b>(10)</b> <math>6\frac{34}{100}</math>; <b>(11)</b> <math>(6 \times 1) + (3 \times \frac{1}{10}) + (4 \times \frac{1}{100})</math>; <b>(12)</b> <math>(6 \times 1) + (3 \times 0.1) + (4 \times 0.01)</math>; 6.34.</p> <p>d. <b>(13)</b> 1 ten 6 ones 5 hundredths; <b>(14)</b> <math>16\frac{5}{100}</math>; <b>(15)</b> <math>(1 \times 10) + (6 \times 1) + (5 \times \frac{1}{100})</math>; <math>(1 \times 10) + (6 \times 1) + (5 \times 0.01)</math>; <b>(16)</b> 16.05.</p> <p>e. <b>(17)</b> 2 tens 3 ones 7 tenths 8 hundredths; <b>(18)</b> <math>23\frac{78}{100}</math>; <math>(2 \times 10) + (3 \times 1) + (7 \times \frac{1}{10}) + (8 \times \frac{1}{100})</math>; <b>(19)</b> <math>(2 \times 10) + (3 \times 1) + (7 \times 0.1) + (8 \times 0.01)</math>; <b>(20)</b> 23.78.</p> <p>Note: Unit form may have more than one correct answer.</p>			
<b>6</b> <b>4.NF.5</b> <b>4.NF.6</b>	The student correctly answers <b>0-3</b> of the nine parts.	The student correctly answers <b>4-6</b> of the nine parts.	The student correctly answers <b>7-8</b> of the nine parts.	The student correctly answers <b>9</b> of the nine parts. (See below.)
	<p>a. <b>(1)</b> Plots each item on the number line.</p> <p>b. <b>(2)</b> Responds <math>0.3 + 0.04 = 0.34</math> or <math>(3 \times 0.1) + (4 \times 0.01) = 0.34</math>.</p> <p>c. <b>(3)</b> Responds <math>\frac{5}{10} + \frac{6}{100} = \frac{56}{100}</math> or <math>(5 \times \frac{1}{10}) + (6 \times \frac{1}{100}) = \frac{56}{100}</math>.</p> <p>d. <b>(4)</b> Represents <math>\frac{90}{100} = \frac{9}{10}</math> in the area models.</p> <p>e. <b>(5)</b> Responds <math>\frac{90}{100} = \frac{90 \div 10}{100 \div 10} = \frac{9}{10}</math>.</p> <p>f. <b>(6)</b> Models and <b>(7)</b> explains that 1 and 15 hundredths equals <math>1\frac{15}{100}</math> and 1.15.</p> <p>g. <b>(8)</b> Models and <b>(9)</b> explains that there are 23 tenths in <math>2\frac{30}{100}</math>.</p>			

Assessment Recommendations for Eureka Math A Story of Units  
Teaching and Learning Department - Bethel School District  
**Grade 4 Module 6 Mid-Module Assessment Task Key**

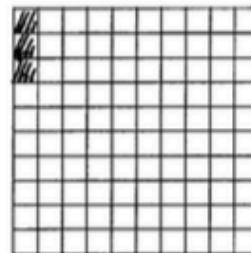
Name Jack Date \_\_\_\_\_

1. Write the following fractions as equivalent decimals. Then, model each decimal with the given representation.

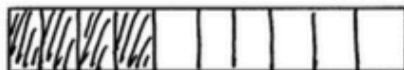
a.  $\frac{2}{10} = \underline{0.2}$



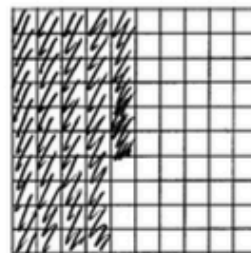
b.  $\frac{3}{100} = \underline{0.03}$



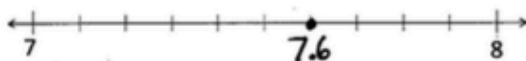
c.  $\frac{4}{10} = \underline{0.4}$



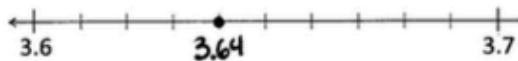
d.  $\frac{46}{100} = \underline{0.46}$



e.  $7\frac{6}{10} = \underline{7.6}$



f.  $3\frac{64}{100} = \underline{3.64}$



g.  $4\frac{7}{10} = \underline{4.7}$

ones	.	tenths
••••		•••••

h.  $5\frac{72}{100} = \underline{5.72}$

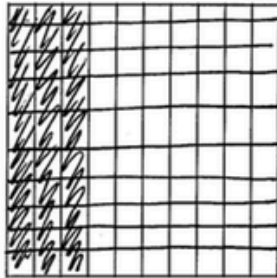
ones	.	tenths	hundredths
•••••		•••••	••



# Grade 4 Module 6 Mid-Module Assessment Task Key (continued)

2. Decompose tenths into hundredths using the area model. Express the equivalence of tenths and hundredths with fractions and with decimals.

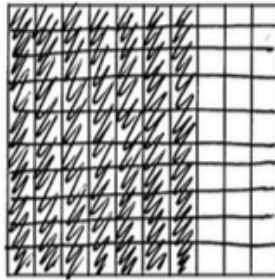
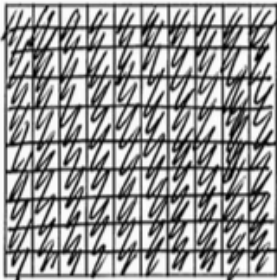
a. 3 tenths



$$\frac{3}{10} = \frac{30}{100}$$

$$0.3 = 0.30$$

b. 1 and 7 tenths

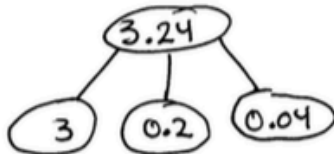


$$1 \frac{7}{10} = 1 \frac{70}{100}$$

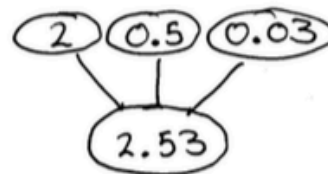
$$1.7 = 1.70$$

3. Use number bonds to complete Parts (a) and (b) below:

a. Decompose 3.24 by units.



b. Compose 0.03, 0.5, and 2 as one decimal number.



## Grade 4 Module 6 Mid-Module Assessment Task Key (continued)

4. Model the following equivalence on the place value chart using place value disks.

20 hundredths = 2 tenths







ones	.	tenths	hundredths

5. Complete the following chart.

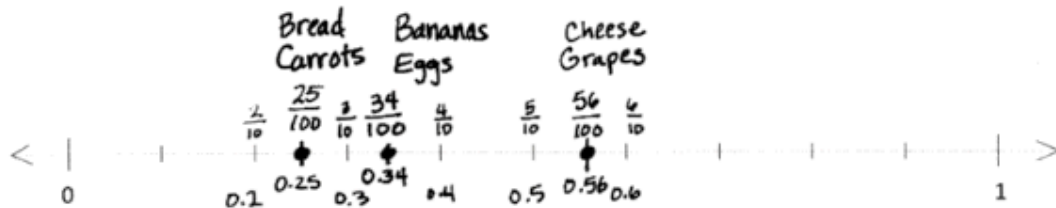
	<u>Unit Form</u>	<u>Fraction</u>	<u>Fraction Expanded Form</u>	<u>Decimal Expanded Form</u>	<u>Decimal</u>
a.	1 tenth 6 hundredths	$\frac{16}{100}$	$(1 \times \frac{1}{10}) + (6 \times \frac{1}{100})$	$(1 \times 0.1) + (6 \times 0.01)$	0.16
b.	2 ones 7 tenths	$2\frac{7}{10}$	$(2 \times 1) + (7 \times \frac{1}{10})$	$(2 \times 1) + (7 \times 0.1)$	2.7
c.	6 ones 3 tenths 4 hundredths	$6\frac{34}{100}$	$(6 \times 1) + (3 \times \frac{1}{10}) + (4 \times \frac{1}{100})$	$(6 \times 1) + (3 \times 0.1) + (4 \times 0.01)$	6.34
d.	1 ten 6 ones 5 hundredths	$16\frac{5}{100}$	$(1 \times 10) + (6 \times 1) + (5 \times \frac{1}{100})$	$(1 \times 10) + (6 \times 1) + (5 \times 0.01)$	16.05
e.	2 tens 3 ones 7 tenths 8 hundredths	$23\frac{78}{100}$	$(2 \times 10) + (3 \times 1) + (7 \times \frac{1}{10}) + (8 \times \frac{1}{100})$	$(2 \times 10) + (3 \times 1) + (7 \times 0.1) + (8 \times 0.01)$	23.78

**Grade 4 Module 6 Mid-Module Assessment Task Key (continued)**

6. Maya puts groceries into bags. The items and their weights in kilograms are given below.

					
Bread	Bananas	Cheese	Carrots	Grapes	Eggs
0.25	0.34	0.56	$\frac{25}{100}$	$\frac{56}{100}$	$\frac{34}{100}$

- a. Plot the weight in kilograms of each item on the number line below.



- b. Write a number sentence using decimals to record the weight in kilograms of the bananas in expanded form.

$$0.34 = 0.3 + 0.04$$

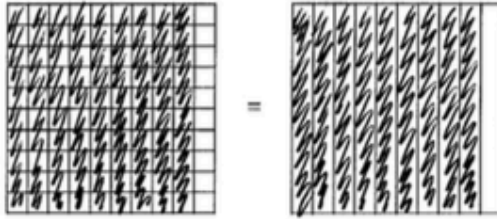
- c. Write a number sentence using fractions to record the weight in kilograms of the grapes in expanded form.

$$\frac{56}{100} = \frac{5}{10} + \frac{6}{100}$$

## Grade 4 Module 6 Mid-Module Assessment Task Key (continued)

Maya packs the eggs and cheese into one of the bags. Together, these items weigh  $\frac{90}{100}$  kilogram.

- d. Use the area model to show that  $\frac{90}{100}$  can be renamed as tenths.

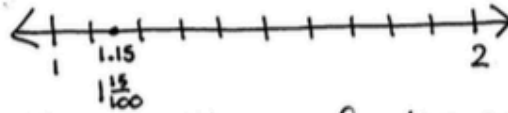


- e. Use division to show how  $\frac{90}{100}$  can be renamed as tenths.

$$\frac{90}{100} = \frac{90 \div 10}{100 \div 10} = \frac{9}{10}$$

Maya places the bread into the bag with the eggs and cheese. Together, all three items weigh 1 and 15 hundredths kilograms.

- f. Use a model and words to explain how 1 and 15 hundredths can be written as a decimal and as a fraction.



1 and 15 hundredths is written as a fraction as  $1\frac{15}{100}$  since there is one whole and fifteen hundredths. Written as a decimal, it is 1.15 since there is one whole and fifteen hundredths.



Maya put the rest of the groceries in a second bag. The items in both bags weigh a total of  $2\frac{30}{100}$  kilograms.

- g. Using a model and words, explain how many tenths are in  $2\frac{30}{100}$ .



$$\frac{10}{10} + \frac{10}{10} + \frac{3}{10} = \frac{23}{10}$$

There are 10 tenths in each whole,  
So  $2 = \frac{10}{10} + \frac{10}{10} = \frac{20}{10}$ .  $\frac{30}{100} = \frac{3}{10}$   
Since  $\frac{30 \div 10}{100 \div 10} = \frac{3}{10}$ .  $\rightarrow \frac{20}{10} + \frac{3}{10} = \frac{23}{10}$

There are 23 tenths in  $2\frac{30}{100}$ .

**Grade 4 Module 6 End-of-Module Assessment Score Sheet****A Progression of Learning**

A Progression of Learning is provided to describe steps that illuminate the gradually increasing understandings that students develop *on their way to proficiency*. In this chart, this progress is presented from left to right. The learning goal for each student is to move to the last step, “Evidence of solid reasoning with a correct answer”. These steps are meant to help teachers and students identify and celebrate what the student CAN do now, and what they need to work on next.

**Score Key: A Progression of Learning**

Little or no evidence of reasoning with an incorrect answer.  (1 Point)	Evidence of some reasoning with an incorrect answer.  (2 Points)	Evidence of some reasoning with a correct answer or evidence of solid reasoning with an incorrect answer.  (3 Points)	Evidence of solid reasoning with a correct answer.  (4 Points)
---	--	---	--

	Module 6: End-of-Module Assessment											
	Domain				Standards							
Question	Number and Operations – Fractions				Measurement and Data				4.NF.5	4.NF.6	4.NF.7	4.MD.2
1	1 2 3 4								X	X		
2	1 2 3 4									X		
3	1 2 3 4									X	X	
4	1 2 3 4								X			
5	1 2 3 4								X			
6	1 2 3 4				1 2 3 4				X	X	X	X

Domain Score	Number and Operations – Fractions		Measurement and Data	
Total Points				
2Level	4	21-24 points	4	4 points
	3	15-20 points	3	3 points
	2	9-14 points	2	2 points
	1	6-8 points	1	1 points

Note: For more information about standards assessed in this module, see back of this score sheet.

Notes:

## Grade 4 Module 6 End-of-Module Assessment Score Sheet (continued)

### End-of-Module Assessment Task (Topics A–E) Clusters and Standards Addressed

#### Understand decimal notation for fractions, and compare decimal fractions.

- 4.NF.5** Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100. *For example, express  $\frac{3}{10}$  as  $\frac{30}{100}$ , and add  $\frac{3}{10} + \frac{4}{100} = \frac{34}{100}$ .* (Students who can generate equivalent fractions can develop strategies for adding fractions with unlike denominators in general. But addition and subtraction with unlike denominators in general is not a requirement at this grade.)
- 4.NF.6** Use decimal notation for fractions with denominators 10 or 100. *For example, rewrite 0.62 as  $\frac{62}{100}$ ; describe a length as 0.62 meters; locate 0.62 on a number line diagram.*
- 4.NF.7** **Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols  $>$ ,  $=$ , or  $<$ , and justify the conclusions, e.g., by using a visual model.**

#### Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.

- 4.MD.2** Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.

Assessment Recommendations for Eureka Math A Story of Units  
Teaching and Learning Department - Bethel School District  
**Grade 4 Module 6 End-of-Module Assessment Rubric**

A Progression of Learning				
Assessment Task Item and Standards Assessed	STEP 1 Little or no evidence of reasoning with an incorrect answer.  (1 Point)	STEP 2 Evidence of some reasoning with an incorrect answer.  (2 Points)	STEP 3 Evidence of some reasoning with a correct answer or evidence of solid reasoning with an incorrect answer. (3 Points)	STEP 4 Evidence of solid reasoning with a correct answer.  (4 Points)
<b>1</b>  <b>4.NF.5</b> <b>4.NF.6</b>	The student correctly answers <b>0-3</b> of the ten parts.	The student correctly answers <b>4-6</b> of the ten parts.	The student correctly answers <b>7-8</b> of the ten parts.	The student correctly answers <b>9-10</b> of the ten parts. (See below.)
	a. <b>(1)</b> area model; <b>(2)</b> $\frac{8}{10} = \frac{80}{100}$ ; <b>(3)</b> $0.8 = 0.80$ b. <b>(4)</b> area model; <b>(5)</b> $\frac{18}{10} = \frac{180}{100}$ ; <b>(6)</b> $1.8 = 1.80$ c. <b>(7)</b> $\frac{2}{10} = \frac{20}{100}$ ; <b>(8)</b> $0.2 = 0.20$ d. <b>(9)</b> $5/10 = 50/100$ ; <b>(10)</b> $0.5 = 0.50$			
<b>2</b>  <b>4.NF.6</b>	The student correctly answers <b>0-1</b> of the six parts.	The student correctly answers <b>2-3</b> of the six parts.	The student correctly answers <b>4-5</b> of the six parts.	The student correctly answers <b>6</b> of the six parts. (See below.)
	a. <b>(1)</b> 0.4    b. <b>(2)</b> 1.1    c. <b>(3)</b> 1.8    d. <b>(4)</b> 3.67    e. <b>(5)</b> 3.78    f. <b>(6)</b> 3.82			
<b>3</b>  <b>4.NF.6</b> <b>4.NF.7</b>	The student correctly answers <b>0-6</b> of the sixteen parts.	The student correctly answers <b>7-11</b> of the sixteen parts.	The student correctly answers <b>12-14</b> of the sixteen parts.	The student correctly answers <b>15-16</b> of the sixteen parts. (See below.)
	a. <b>(1)</b> <; <b>(2)</b> justify    b. <b>(3)</b> =; <b>(4)</b> justify    c. <b>(5)</b> =; <b>(6)</b> justify    d. <b>(7)</b> <; <b>(8)</b> justify e. <b>(9)</b> <; <b>(10)</b> justify    f. <b>(11)</b> =; <b>(12)</b> justify    g. <b>(13)</b> >; <b>(14)</b> justify    h. <b>(15)</b> >; <b>(16)</b> justify			
<b>4</b>  <b>4.NF.5</b>	The student correctly answers <b>0</b> parts.	The student correctly answers <b>1</b> of the three parts, including labels.	The student correctly answers <b>2</b> of the three parts.  OR Answers all 3 parts correctly with no labels.	The student correctly answers <b>3</b> of the three parts, including labels. (See below.)
	a. <b>(1)</b> $1\frac{75}{100}$ meters    b. <b>(2)</b> $2\frac{52}{100}$ liters    c. <b>(3)</b> $1\frac{18}{100}$ dollars			
<b>5</b>  <b>4.NF.5</b>	The student correctly answers <b>0-1</b> of the six parts.	The student correctly answers <b>2-3</b> of the six parts.	The student correctly answers <b>4-5</b> of the six parts.	The student correctly answers <b>6</b> of the six parts. (See below.)
	a. <b>(1)</b> $\frac{78}{100}$ b. <b>(2)</b> $\frac{91}{100}$ c. <b>(3)</b> $\frac{118}{100}$ or $1\frac{18}{100}$ d. <b>(4)</b> $\frac{118}{100}$ or $1\frac{18}{100}$ e. <b>(5)</b> $\frac{132}{100}$ or $1\frac{32}{100}$ f. <b>(6)</b> $\frac{103}{100}$ or $1\frac{3}{100}$			





Assessment Recommendations for Eureka Math A Story of Units  
Teaching and Learning Department - Bethel School District

A Progression of Learning				
Assessment Task Item and Standards Assessed	<b>STEP 0</b> <b>Little or no evidence of reasoning with an incorrect answer.</b>  <b>(1 Point)</b>	<b>STEP 2</b> <b>Evidence of some reasoning with an incorrect answer.</b>  <b>(2 Points)</b>	<b>STEP 3</b> <b>Evidence of some reasoning with a correct answer or evidence of solid reasoning with an incorrect answer.</b> <b>(3 Points)</b>	<b>STEP 4</b> <b>Evidence of solid reasoning with a correct answer.</b>  <b>(4 Points)</b>
<p align="center"><b>6</b></p> <p><b>4.NF.5</b> <b>4.NF.6</b> <b>4.NF.7</b> <b>4.MD.2</b></p> <p><b>Use this rubric to double score #6.</b> <b>(Record the same score in NF and MD.)</b></p>	<p>The student correctly answers <b>0-1</b> of the six parts.</p> <p>The student correctly answers <b>2-3</b> of the six parts.</p> <p>The student correctly answers <b>4-5</b> of the six parts.</p> <p>The student correctly answers <b>6</b> of the six parts. (See below.)</p> <p>a. <b>(1)</b> Answers 20.12 seconds.</p> <p>b. <b>(2)</b> Plots the times on the number line and records each time as a decimal and fraction.</p> <p>c. <b>(3)</b> Answers <math>32\frac{4}{100} \text{ m} &lt; 35\frac{84}{100} \text{ m}</math>; or <math>32.04 \text{ m} &lt; 35.84 \text{ m}</math>.</p> <p>d. <b>(4)</b> Shades each area model representing each item.</p> <p>e. <b>(5)</b> <math>\frac{89}{100} + \frac{50}{100} = \frac{139}{100} = 1\frac{39}{100}</math>; <math>\\$0.89 + \\$0.50 = \\$1.39</math></p> <p>f. <b>(6)</b> Reasons that Brian's container of juice is larger, and, therefore, each tenth unit will fill more juice than Sonya's container. Comparing is only valid when the unit whole is the same. The containers' unit wholes were of different sizes.</p>			



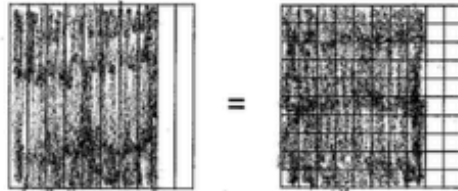


Assessment Recommendations for Eureka Math A Story of Units  
Teaching and Learning Department - Bethel School District  
**Grade 4 Module 6 End-of-Module Assessment Key**

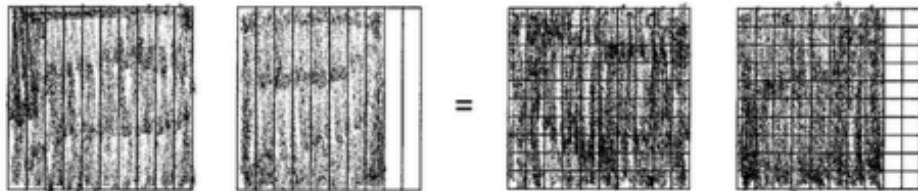
Name Jack Date \_\_\_\_\_

1. Decompose each fraction into hundredths using area models. Then, write the equivalent number sentence using decimals.

a.  $\frac{8}{10} = \frac{80}{100}$   
 $0.8 = 0.80$



b.  $\frac{18}{10} = \frac{180}{100}$   
 $1.8 = 1.80$

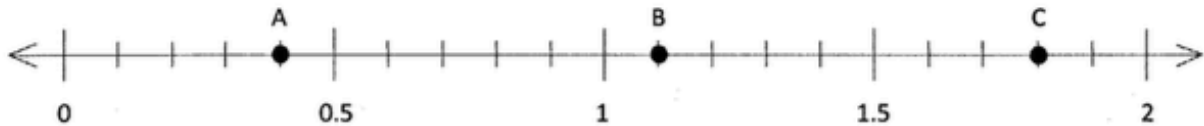


Decompose each fraction into hundredths. Then, write the equivalent number sentence for each part using decimals.

c.  $\frac{2}{10} = \frac{20}{100}$   $0.2 = 0.20$

d.  $\frac{5}{10} = \frac{50}{100}$   $0.5 = 0.50$

2. Several points are plotted on the number lines below. Identify the decimal number associated with each point.



A. 0.4

B. 1.1

C. 1.8



D. 3.67

E. 3.78

F. 3.82

## Grade 4 Module 6 End-of-Module Assessment Key (continued)

3. Use the symbols  $>$ ,  $=$ , or  $<$  to compare the following. Justify your conclusions using pictures, numbers, or words.

a.  $0.02 \text{ } \textcircled{<} \text{ } 0.22$

2 hundredths is less than 22 hundredths

b.  $0.6 \text{ } \textcircled{=} \text{ } 0.60$

$$0.6 = \frac{6}{10} \text{ and } \frac{6}{10} \cdot \frac{6 \times 10}{10 \times 10} = \frac{60}{100}$$

$$0.60 = \frac{60}{100} \text{ They are equal.}$$

c. 17 tenths  $\textcircled{=}$  1.7

$$\frac{17}{10} = \frac{10}{10} + \frac{7}{10} = 1\frac{7}{10} = 1.7$$

d.  $1.04 \text{ } \textcircled{<} \text{ } 1\frac{4}{10}$

Hundredths are smaller than tenths, so 4 hundredths is less than 4 tenths. Since they both have one whole,  $1.04 < 1\frac{4}{10}$ .

e.  $0.38 \text{ } \textcircled{<} \text{ } \frac{38}{10}$

$$\frac{38}{10} = 3\frac{8}{10}$$

$$\frac{30}{10} \quad \frac{8}{10}$$

38 hundredths is less than 1. 38 tenths is greater than 1.

f.  $4.05 \text{ } \textcircled{=} \text{ } 4\frac{5}{100}$

4.05 is 4 and 5 hundredths. That is the same as  $4\frac{5}{100}$ .

g. 3 tenths + 2 hundredths  $\textcircled{>} \text{ } 1 \text{ tenth} + 13 \text{ hundredths}$

$$\frac{3}{10} + \frac{2}{100} = \frac{30}{100} + \frac{2}{100} = \frac{32}{100}$$

$$\frac{1}{10} + \frac{13}{100} = \frac{10}{100} + \frac{13}{100} = \frac{23}{100}$$

32 hundredths is greater than 23 hundredths.

h. 8 hundredths + 7 tenths  $\textcircled{>} \text{ } 6 \text{ tenths} + 17 \text{ hundredths}$

$$\frac{8}{100} + \frac{7}{10} = \frac{8}{100} + \frac{70}{100} = \frac{78}{100}$$

$$\frac{6}{10} + \frac{17}{100} = \frac{60}{100} + \frac{17}{100} = \frac{77}{100}$$

78 hundredths is greater than 77 hundredths.

## Grade 4 Module 6 End-of-Module Assessment Key (continued)

4. Solve.

a. Express your solution as a fraction of a meter.

$0.3 \text{ m} + 1.45 \text{ m}$

$$\frac{3}{10} \text{ m} + \frac{45}{100} \text{ m} = \frac{30}{100} \text{ m} + \frac{45}{100} \text{ m} = \frac{75}{100} \text{ m}$$

b. Express your solution as a fraction of a liter.

$1.7 \text{ L} + 0.82 \text{ L}$

$$1\frac{7}{10} \text{ L} + \frac{82}{100} \text{ L} = 1\frac{70}{100} \text{ L} + \frac{82}{100} \text{ L} = 1\frac{152}{100} \text{ L} = 2\frac{52}{100} \text{ L}$$

$\frac{100}{100} \quad \frac{52}{100}$

c. Express your solution as a fraction of a dollar.

$4 \text{ dimes } 1 \text{ penny} + 77 \text{ pennies}$

$$\frac{4}{10} \text{ dollar} + \frac{1}{100} \text{ dollar} + \frac{77}{100} \text{ dollar} = \frac{40}{100} \text{ dollar} + \frac{1}{100} \text{ dollar} + \frac{77}{100} \text{ dollar}$$

$$= \frac{118}{100} \text{ dollars} = 1\frac{18}{100} \text{ dollars}$$

5. Solve.

a.  $\frac{7}{10} + \frac{8}{100}$

$$\frac{70}{100} + \frac{8}{100} = \frac{78}{100}$$

b.  $\frac{4}{10} + \frac{51}{100}$

$$\frac{40}{100} + \frac{51}{100} = \frac{91}{100}$$

c.  $\frac{5}{10} + \frac{68}{100}$

$$\frac{50}{100} + \frac{68}{100} = \frac{118}{100} = 1\frac{18}{100}$$

$\frac{100}{100} \quad \frac{18}{100}$

d.  $\frac{98}{100} + \frac{2}{10}$

$$\frac{98}{100} + \frac{20}{100} = \frac{118}{100} = 1\frac{18}{100}$$

$\frac{100}{100} \quad \frac{18}{100}$

e.  $\frac{12}{100} + \frac{12}{10}$

$$\frac{12}{100} + \frac{120}{100} = \frac{132}{100} = 1\frac{32}{100}$$

$\frac{100}{100} \quad \frac{32}{100}$

f.  $\frac{1}{10} + \frac{13}{100} + \frac{8}{10}$

$$\frac{10}{100} + \frac{13}{100} + \frac{80}{100} = \frac{103}{100} = 1\frac{3}{100}$$

$\frac{100}{100} \quad \frac{3}{100}$

## Grade 4 Module 6 End-of-Module Assessment Key (continued)

6. Answer the following questions about a track meet.

- a. Jim and Joe ran in a relay race. Jim had a time of 9.8 seconds. Joe had a time of 10.32 seconds.

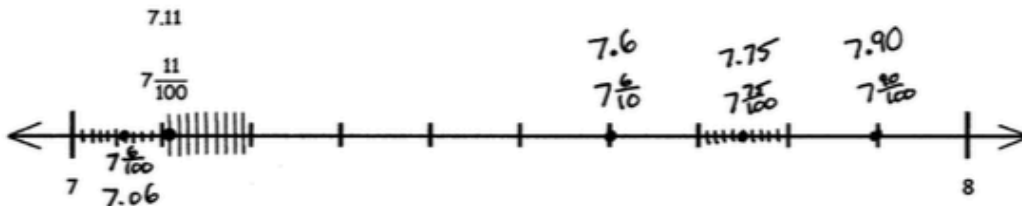
Together, how long did it take them to complete the race? Record your answer as a decimal.

$$9.8 = 9\frac{8}{10} = 9\frac{80}{100} \quad 9\frac{80}{100} + 10\frac{32}{100} = 19\frac{112}{100} = 20\frac{12}{100} = 20.12$$

$$10.32 = 10\frac{32}{100}$$

It took them 20.12 seconds to complete the race.

- b. The times of the 5 fastest runners were 7.11 seconds, 7.06 seconds, 7.6 seconds, 7.90 seconds, and 7.75 seconds. Locate these times on the number line. Record the times as decimals and fractions. One has been completed for you.

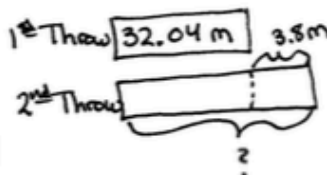


- c. Natalie threw a discus 32.04 meters. She threw 3.8 meters farther on her next throw. Write a statement to compare the two distances that Natalie threw the discus using  $>$ ,  $<$ , or  $=$ .

$$32.04 = 32\frac{4}{100}$$

$$3.8 = 3\frac{80}{100}$$

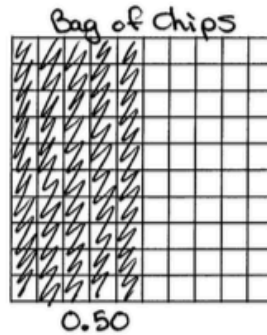
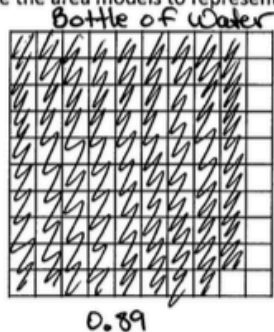
$$32\frac{4}{100} + 3\frac{80}{100} = 35\frac{84}{100} = 35.84$$



$$32.04\text{m} < 35.84\text{m}$$

## Grade 4 Module 6 End-of-Module Assessment Key (continued)

- d. At the concession stand, Marta spent 89 cents on a bottle of water and 5 dimes on a bag of chips. Shade the area models to represent the cost of each item.



- e. Write a number sentence in fraction form to find the total cost of a water bottle and a bag of chips. After solving, write the complete number sentence in decimal form.

$$\frac{89}{100} + \frac{50}{100} = \frac{139}{100} = 1\frac{39}{100}$$

$$0.89 + 0.50 = 1.39$$

$$\$0.89 + \$0.50 = \$1.39$$

- f. Brian and Sonya each have a container. They mark their containers to show tenths. Brian and Sonya each fill their containers with 0.7 units of juice. However, Brian has more juice in his container. Explain how this is possible.

It is possible that Brian has more juice in his container because we don't know that Brian and Sonya's containers are the same size. If Brian's container is larger than Sonya's, his tenths of a unit will be larger than Sonya's and, therefore, he will have more juice.

